

M E D I C A L
P R I N C I P L E S
AND *F. &c.*
C A U T I O N S.

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There is a GOD in Heaven, that revealeth Secrets.
Dan. ii. 28.



L O N D O N :

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Medical

Medical Principles

AND

CAUTIONS.

I.

§ 1. **I**T seems to me, that the Things necessary to be known unto those, who are preparing for the Practice of Physick, have not been explained, methodized, and digested in so clear and concise an Order, as may be wished.

§. 2. The grand Affair of the medical Art, so far as is needful to enable a Man to form right Notions of Diseases, and of the Errors, which should be avoided, and of the Means proper for the Cure of them, I think, may be very much contracted; the Matters relating to it set in a clearer Light, and rendered more easy to be understood.

B

§. 3.

§. 3. The following Sections may be accepted as an *Essay*, short as it is, to promote so desirable an End.

§. 4. I propose in these Papers to give some Account of Diseases, and of the *Principles* of medical Practice, and of the *Cautions* to be regarded in the Administration of Remedies; which I hope will be impartially considered.

II. *An Account of the Causes of Diseases.*

§. 5. **T**HE Causes of Diseases in general are the following, *viz.*

I. Some Excess in the Quantity of one or other of the Animal Fluids; that is, an Excess either in the Quantity of the Blood, or of the Lymph, or of the nervous Liquid; which three general Fluids are always moving in all Parts of the Body.

II. Some *wrong Quality* of them.

III. Some *Deficiency* in the Quantity of one or other of them: Or,

IV. Some Combination of these Causes.

§. 6. **T**HIS Account is no uncertain Hypothesis, but grounded upon Facts.

§. 7. The Cause of every Disease that can happen to the human Body (how manifold

nifold soever they may be) is comprehended in one, or other of the Heads mentioned, (§. 5.)

§. 8. And if this (Account, §. 5.) is true, (which ought in Reason to be allowed as such, till a different Sort of Causes be discovered) then the following Methods, which may be deemed general Principles for the Cure of them, should be acknowledged as built on a plain, and solid Foundation.

III. *An Account of the proper Means for curing Diseases.*

§. 9. I. **T**HAT Diseases, produced *only* by some *Excess* in the Quantity of one, or other of the Animal Fluids, are to be cured only by suitable Evacuations.

II. That Diseases, which arise *only* from some *wrong Quality* of the Animal Fluids, are to be removed *only* by proper ALTERNATIVE Medicines.

III. That Distempers resulting only from some *Deficiency* in the Body, are to be healed only by such Restorative Remedies, as may supply it. And,

4 *Of the Means for curing Diseases.*

IV. That Diseases, which are the Effects of the forementioned Causes, acting in some Combination, are to be overcome by compounding Medicines of such Ingredients, and in such a Manner as may remove those combined Causes, which produced the morbid Symptoms.

§. 10. The Truth of this Account (§. 9.) appears so manifest, as not to need Arguments for the Proof of it, till some valid Objection be made to it.

§. 11. But the Consideration of it may convince us, that all who direct for the Cure of Diseases, should understand the following Things, *viz.*

I. When the Blood, and when the Lymph, and when the nervous Fluid is too much in Quantity.

§. 12. For without this Knowledge they can neither tell when Evacuations should be made, nor what Sorts of them are wanted, nor when to forbid them.

§. 13. But there are *Signs*, by which, when rightly understood, this necessary Knowledge may be soon attained.

§. 14. II. They should likewise know when a *morbid Quality* subsists in the Blood, and of what Sort it is: Because without this Knowledge they can never tell when
alterative

MEDICAL PRINCIPLES.

5

alterative Medicines are wanted, nor what Sort of them are like to remove the Cause of the Distemper.

§. 15. There are Signs which will discover to those that know them, when there is a morbid Quantity in the animal Fluids, and the Nature of it. C

§. 16. III. They should also be able to judge when the Blood, and when the Lymph, and when the nervous Fluid is too little in Quantity, and what other *Deficiencies* subsist in the Body.

§. 17. And as there are *Symptoms* which always manifest the Deficiencies that occur in human Bodies, so it is necessary to be acquainted with them, and their Signification.

IV. Of the Medical Principles.

§. 18. **N**OW I may observe that on the foregoing State of Things the following *Fundamental, Medical Principles* are justly built, and by it they are firmly supported, *viz.*

Principle I. That when the Quantity of the Blood is too great, so much Blood should be taken from the Patient, as may reduce it's Quantity to the Standard of Health.

§. 19. It is indeed a nice Point to find out when the Quantity of the Blood is too

great, and how much the Excess may be, but by a proper Examination of the Patient we may know, whether there is an Excess, and whether it be great,

§. 20. Principle II. That when the Lymph exceeds in Quantity, it ought to be diminished; and therefore *Evacuation* is to be made, either by Cathartics, or Diuretics, or Sudorifics, or Diaphoretics.

21. Principle III. That in Diseases, which arise from an Excess in the Quantity of the *Nervous Fluid*; those Medicines should be advised which may render it less.

§. 22. Principle IV. That in Diseases, when the Quantity of the Blood is not greater than it ought to be, the taking Blood from the Patient should not be advised.

§. 23. The universal Custom of *Bleeding* People, almost in all Disorders, and advising the Repetition of this Evacuation for the Cure of them, even in Patients who had not too much Blood, with the Consideration of the unavoidable, and often pernicious Effects of it, oblige me for the good of Mankind to shew the Justness, and Importance of the Principle last mentioned, (§. 22.)

§. 24. If I am called to a Patient under a Fever, who is plethoric, I order Bleeding; not

not indeed because he has a Fever, but because he has too much Blood.

§. 25. I say, *not because he has a Fever*, because all Fevers are produced by, and depend on a morbid Quality of the Blood of one kind or other (as will appear when I come to consider them) and therefore those Remedies *only* are wanted for their Cure which may free the animal Fluids from their morbid Quality; and because those Diseases may be Cured without Bleeding.

§. 26. All People of both Sexs, and of every Age, may be divided into three Classes, *viz.*

I. Those who have their proper Quantity of Blood; neither too much, nor too little of it.

II. Those who have too much Blood.

III. Those who have too little.

§. 27. That the Second of these Sorts of People should have Blood taken from them is very manifest, because they have one of the general Causes of Distempers subsisting in their Bodies; and Phlebotomy is a rational and the proper Remedy which can presently free them from that Cause of Sicknes.

§. 28. But this will not excuse, much less justify the *Indiscriminate* Use of this Evacuation; it can be no Reason for drawing
ing

ing Blood from the first, nor from the third Sort of People mentioned; (§. 26.)

§. 29. Certainly we ought not to treat Persons in the same Manner; whose Cases are very different: The Difference that is between any too Patients will direct; and oblige us to give different Advice to them.

§. 30. And if an *Excess* in the Quantity of the Blood in one of them be, as it is, a good Argument for bleeding him; then a *Deficiency* in the Quantity of Blood in the other must be allowed as a good Argument against taking Blood from him.

§. 31. That Blood should not be drawn from Persons who have no more than their proper Quantity, will I think very clearly appear, if we consider,

§. 32. I. That taking Blood then, will diminish their vital Strength in Proportion to the Quantity taken away.

§. 33. I may add that another bad Effect of taking Blood from such Persons (§. 31.) is a Diminution of *all the Secretions*; that is, a rendering the nervous Fluid, or animal Spirits, and every other secreted Humour, less than it ought to be, in a Proportion to the Quantity of the Blood in such Cases taken away: For (as, we may easily understand)

sufficient

sufficient Secretions cannot possibly be made from an insufficient Quantity of Blood.

§. 34. If we consider these Things (§. 33.) we may presently know the Reason why Persons, after the Loss of much Blood, are weak, faint, low-spirited, and so long before they recover their former Health, and Strength.

§. 35. It is certainly rational and beneficial to take away Blood from Persons, who have too much of it: But does it appear so reasonable to draw Blood from those who have too little? And to bleed such a Man under Sickneſs, when an acute Disease, produced by some morbid Quality, is dissipating his Spirits, ravaging his vital Strength, and lessening the Quantity of his Fluids; does it not seem a Making that Evacuation at a very improper Time? On the Account that then the Man wants more Blood, more Spirits and more Strength to supply what becomes wanting thro' the Agency of the morbid Causes?

§. 36. In such a Case, does not this Evacuation seem unseasonable and to concur with the Disease, for bringing Life to a Period? And if it should be repeated again, and again, may it not accelerate Death more quickly than the Disease would have done without it?

§. 37. In all Fevers, especially in those which are contagious, there is a continual Expulsion of the febrile Matter thro' the excretory Vessels out of the Body; and in Eruptive Fevers to the Formation of the Eruptions: And does not *Blood-letting* counter-act all the Natural Excretions? and draw back into the Blood from both the external, and internal Superficies of the Body, Multitudes of morbid Particles, which were just on the point of being excluded from it?

§. 38. Do not the Effects, the natural unavoidable Effects of *Blood-letting* discover it to have a pernicious Tendency in Persons, who have too little Blood? Especially when by some Distemper their Appetites have been taken off from their Food, and their vital Strength, and the Quantity of their Blood and Spirits have been rendered less than a State of Health required?

§. 39. And will it not therefore be better to omit this Evacuation, since Diseases produced by, and depending on some morbid Quality of the Blood, may be better cured without it?

§. 40. I have said thus much to shew the Truth and Importance of the fourth General

neral and Fundamental Principle of Medical Practice, delivered in §. 22.

§. 41. Principle V. That in Diseases, when the Quantity of the Lymph does not exceed the Standard of Health; or is not greater than it ought to be, Evacuations by Vomiting, or Purgings, or Sweating ought not to be made.

§. 42. Reason. Because those Evacuations will render the Quantity of it less than it ought to be; or in other Words, will introduce a Deficiency, which is one general Cause of Diseases: (Vid. §. 5.) and therefore should be carefully avoided. And it is evident, that cannot be the right Method of Curing any Diseases, which introduces into the Body the Causes of others.

§. 43. Principle VI. That for the Cure of Diseases produced only by a wrong, or morbid Quality of the Blood, and other Fluids of the Body, Medicines by which the morbid Quantity may be altered, and removed, should only be advised as the proper Remedies.

§. 44. Reasons. I. Because such Medicines only are wanted for the Cure of them.

II. Because, whatever be the morbid Quality ^{ty} ~~that~~ ^{li} ~~that~~ produced the Distemper, if we find out of what sort it is, we know there is a

variety of Medicines in the *Materia Medica*, from the Nature of which we judge their Fitness to be prescribed; and by the Experience of them we know their Efficacy in removing it.

§. 45. I may add that it seems as irrational to endeavour curing such Diseases (§. 43.) by making Evacuations, and diminishing the Quantity of the animal Fluids, as it would be in Distempers produced merely by an Excess in the Quantity of them, to attempt their Cure, only by giving *Alterative* Medicines, without Prescribing the needful Evacuations.

§. 46. Principle VII. That in Diseases, which arise from, and depend on some *Deficiency* in the Body, those Remedies should be advised, which may contribute to supply the Deficiency.

§. 47. This Principle (§. 46.) I apprehend will be acknowledged as self-evident; But it implies Skill in the Person advising, to find out what the Deficiencies are: And without such Knowledge, the Patients under such Diseases (§. 46.) cannot be duly served.

§. 48. The Seven foregoing Principles, I think may justly be called *Fundamental Principles* of the Practice of Physick; And the

the Safety and Recovery of People from their Diseases, very much depends on a due Observance of them.

V. Of Medical Cautions.

§. 49. **I** Think it proper, in the next Place, to propose some *Cautions* relating to the Use of Remedies; commonly advised for the Cure of them: Particularly in regard to the making Evacuations by *Bleeding*, or *Vomiting*, or *Purging*, or by *Urine*, or *Sweating*, or *Blistering*.

Of Blood-letting.

§. 50. **I.** **A**S to *Bleeding*, I offer to Consideration the following Cautions, viz.

Caution I. Not to order Blood to be taken from the Sick, when the Revulsion produced by this Evacuation may occasion a Return of morbid Humours, or Particles into the Blood.

Reason. Because the morbid Matter drawn back into the Blood, by the Revulsion may either increase the Disease, or produce some other; And therefore when there is no Excess in the Quantity of the Blood, Bleeding should not be advised.

This Argument restrain'd Dr. * *Sydenham* from *Blood-letting* in the *Scarlet Fever*. And the Argument is as strong against it in the *Measles*, *Small Pox*, and all other Diseases, acute and chronical, when the Revulsion of it is like to produce morbid Alterations in the Blood. (*Vid.* §. 37, 38.)

§. 51. Caution II. Not to bleed Persons, whose Fibres and Vessels are lax and their Flesh loose and flabby; which State of the Solids may be called a Morbid State.

§. 52. Reason, Because the Evacuation will diminish the contractile Force of the animal Vessels, increase their Laxity, and debilitate the Action of the vital Organs.

§. 53. It is granted, that an Excess in the Quantity of the Blood, with too much Force in the Pulse, and too great a Tenseness of the muscular Fibres, and Vessels, are good Arguments for taking Blood from such a Patient, because it will remove the Excess, and abate the Strength of the Pulse, and Rigidity of the Vessels.

* Quamobrem tum hinc et a Venz-Sectione, et ab Enematum usu mihi temperans (quibus remediorum formis factâ Revulsione particulas Sanguini infestas cum eodem intimius permisceri, et motum Naturæ magis congruum suffraginari autumo) *Vid.* *Syd. Oper.* p. 287.

§. 54. But then these Arguments are as strong against bleeding a Patient in the Case mentioned (§. 51.)

§. 55. Dr. KEILL * thought that those, who advise Bleeding, whether in acute or chronical Diseases, ought carefully to consider the Strength, or elastic Force of the animal Fibres: And that it was very easy to give the Reason of their becoming in a few Hours remarkably weak by such Evacuation: And he apprehended, that taking away a great Quantity of Blood was never without Danger.

§. 56. Caution III. Not to take Blood from fat People without some very urgent Necessity.

§. 57. Reason 1. Because their Blood abounds more with oily Particles than that of lean Persons; their Vessels are more lax, and the contractile Force of them less; and consequently the vital Organs are less able to carry on with due Vigour the Circulation of the Fluids.

2. Because in fat Bodies there needs rather greater Force in the Action of the

* Has elasticas *Febrarum* vires diligenter æstimare debet, qui in morbis aut æcutis, aut longis detractionem sanguinis præcipit; quâ enim ratione intra paucas horas insigniter debilitari possunt, monstratu facile est. Nec unquam periculo vacat larga sanguinis detractione. Vid. Dr. Keill's *Tentamen. Medico Physic.* p. 30.

- Heart than in such as are *lean*, to propel the Blood through the Extremities of the Arteries into the Veins; and consequently the Strength of the Action of the Heart ought not to be diminished.

3. Because Weight for Weight, or, in Persons of equal Weight, there is less Blood in the fat than in the lean.

§. 58. Caution IV. Not to take away Blood from Patients, who find their Strength less than usual.

§. 59. Reason I. The sensible Abatement of their Strength is a Symptom, which shews a Deficiency in the Quantity of the nervous Fluid, and also in the Blood, from which it was secreted; and therefore taking Blood from such Persons, will increase the Deficiency in those Fluids, and the Diminution of the Patients Strength, which ought to be avoided.

§. 60. Caution V. Not to order Blood to be taken away a second Time, when, in Consequence of the first Bleeding, the Pulse becomes weaker than in the Time of Health.

§. 61. Reason. For that Diminution of the Strength of the Pulse shews, that the first Bleeding was wrong and hurtful, and that a second Bleeding will be more injurious; which Consideration surely should
restrain

restrain us, in such Cases, from repeating the Evacuation.

§. 62. Caution VI. Not to order Blood to be taken away a second Time, when in Consequence of the first Bleeding, the Pulse becomes quicker than in Time of Health, or quicker than it was before Blood was drawn.

§. 63. Reason. The augmented Celebrity of the Pulse produced by diminishing the Quantity of the Blood, shews, that the first Bleeding has occasioned an obstructed, or a difficult passing of the Blood through many of the minute sanguine Arteries, and thereby a quicker Motion of it through the larger, and some Degree of Viscidity.

§. 64. Hence (§. 63.) it appears, that a Physician should be well acquainted with the Pulse and Strength of his Patient, before he advises Blood to be taken from him; and likewise that he ought critically to observe the Alterations which ensue upon the taking away Blood in his Patient's Strength; and also in his Pulse, as to its Force and Quickness of Motion.

§. 65. Caution VII. Not to prescribe Bleeding a second Time, when in Consequence of the first Bleeding the Body be-
D comes

comes too cool, that is cooler than in the Time of Health.

§. 66. Reason. Because that Abatement of the vital Heat (§. 65.) shews, that the first Bleeding was not only needless, but injurious to the Patient, and rendered the Quantity of his Blood, and of its red Globules (by the Friction of which the vital Heat is in a great Measure maintained) less than it ought to be.

§. 67. Caution VII. Not to order Persons to be blooded whose Blood is *watery*, or has too small a Proportion of red Globules, as under Dropsies, and in leucophlegmatic Habits of Body.

§. 68. Reason. Because by increasing the Deficiency of the red Globules in such Patients, and the Diminution of their Strength, the Evacuation will render their Case much worse, and increase greatly their Danger.

§. 69. Dr. HALES, * in his Experiments of infusing Water into the Blood-Vessels of Dogs, observed that they constantly died, when their Blood grew very dilute with Water: Whence he concluded justly, that the meer keeping the Arteries full of any Fluid will not support Life.

§. 70. Caution VIII. Not to take Blood from Persons that are habitually *chilly*, or too cool.

§. 71.

* Vid. Dr. HALES's Statical Essays, Vol. II. p. 115.

§. 71. Reason. Because their habitual Chillness shews, that the Quantity of their Blood is too little, and consequently ought not to be more diminished.

Of Vomiting.

§. 72. **T**HE making Evacuation, by giving *emetic* Medicines, is recommended by some Authors as a useful Remedy for the Cure of several Distempers; and in some Cases it has proved beneficial: But I know by Experience, that the Advantages obtained by Vomiting may as effectually be obtained by more gentle Medicines without it.

§. 73. Vomiting produces its salutary Effects chiefly by the violent Exercise and Agitation of almost all the Parts of the Body: But it is a Remedy that ought to be used with Caution; particularly,

§. 74. Caution 1. Not to order Vomiting Medicines for *plethoric* Persons, *i. e.* such whose Quantity of Blood, and Lymph is too great.

§. 75. Reason. Because in such Bodies the violent Motions in Vomiting may occasion the Rupture of some Vessels.

§. 76. Caution 2. Not to advise Vomiting Medicines either in *eruptive* Fevers, or *cutaneous* Diseases.

§. 77. Reason. Because the violent Action of Vomiting makes a strong REVULSION from the *Superficies* of the Body into the Blood: Red Pustules have turned suddenly pale, and in a great measure subsided thro' the Force of the Revulsion; and an Abundance of morbid Particles excreted from the Blood, to the Endings of the subcutaneous Vessels, have been drawn into returning Vessels, and carried back into the Blood again.

§. 78. Dr. FRIEND * on this Account disproved the giving Vomits in Pleurisies, and in the Small Pox, while the Pustules were maturing; and for the same Reason they should not be advised in any cutaneous Distemper, nor when by the Revulsion morbid Particles may be drawn back into the Blood.

§. 79. Caution 3. Not to give Vomiting Medicines to weak Bodies, that have been long afflicted with Obstructions,

* Quid enim de iis censendum est, qui in *Pleuritide*, v. gr. contra *Celsi* præceptum, *Vomitiva*, eaque valentissima, præscribunt? Quasi unquam vehemens illa lateris contentio. quæ inter vomendum oritur, morbum levaret! Imo augeat necesse est, — Quid de iis etiam, qui *variolis* ferè jam ad maturitatem perductis, vomentia præcipiunt? Cum nulla prorsus medicina humores potentius avertat, quam quæ vomitum ciet! Cujus sanè in revellendo vis ex hoc satis intelligitur, quod scilicet *coxarum dolores*, atque *Oedemata* sæpius expugnet, aliis frustra diuque tentatis revellentibus. *Vid. Freund Com. de Febris, p. 41, 42.*

§. 80.

§. 80. Reason. For in such Bodies the violent Force wherewith the Fluids are propelled in the Course of their Circulation, may increase the Obstructions, and occasion the Rupture of some Vessels.

§. 81. Caution 4. Not to prescribe Vomits in any Diseases, whether acute or chronical, produced by, and depending meerly on some morbid Quality of the animal Fluids.

§. 82. Reason. Because *alterative* Medicines, and not *Evacuants*, are the proper Remedies.

Of Purging.

§. 83. **I**T is often of great Service to prescribe purging Medicines, particularly when the Quantity of the Lymph is too great; and when a Revulsion from the Head, and from the exterior Superficies of the Body may contribute to the Cure of Diseases; but I apprehend that it is a sort of Remedy, which ought not to be used *indiscriminately* in every Kind of Distempers, and therefore I propose the following *Cautions*, viz.

§. 84. Caution 1. Not to advise a purging Medicine in any Distemper, whether acute or chronical, wherein a *Revulsion* from the exterior Superficies of the Body may

produce a Return of morbidic Particles from it into the Blood; therefore not to advise it in contagious Diseases, nor in *eruptive* Fevers, while the Eruption subsists; nor in cutaneous Distempers.

§. 85. Reason. Because increasing the Evacuation through the Intestines, always makes a *Revulsion* from the outward Surfaces in Proportion to the Number and Largeness of the Stools: Which Revulsion will produce a Return into the Blood of many *morbidic* Particles, which had been excreted from it to the extreme Parts of the subcutaneous Vessels; and indeed a Return of all, or most of them, which are minute enough to pass back through the absorbent Vessels; and may thereby increase the Danger of the Sick.

§. 86. Caution 2. Not to prescribe a Purge in any Diseases, under which the Blood is too spissed, that is, has too small a Proportion of *Serum*, or has a *viscid*, or glutinous Quality.

§. 87. Reason. Because the Operation of a Purge, by evacuating the thinnest Parts of the Lymph, and by diminishing the Quantity of it, will proportionably inspissate the remaining Fluids, and increase the morbid Quality, which we should endeavour to remove.

§. 88.

§. 88. Caution 3. Not to prescribe purging Medicines in the Beginning of Fevers, or before their Declination.

§. 89. Reason. Because Fevers are produced by some morbid Quality or other; consequently *altering*, and not evacuating Medicines are the proper Remedies.

Of increasing the Quantity of Urine.

§. 90. **I**T is indeed of great Importance for the Cure of various Diseases, to endeavour by *diuretic* Medicines to increase the Evacuation by Urine; particularly when the Discharge by the insensible Perspiration is obstructed and diminished; when Persons are afflicted with *Colds, Coughs*, and other catarrhus Disorders; and when the Serum of the Blood and Lymph are too much in Quantity, and in all *leucophlegmatic, anasarcaus*, and *hydropical* Cases; and whenever the Blood is too thin, poor, and watery.

§. 91. But notwithstanding it is of great Advantage in many Diseases to prescribe this Sort of Medicines, yet they are not *indiscriminately* to be advised; and therefore to prevent a prejudicial Administration of them, some Cautions should be observed; such as the following, *viz.*

§. 92.

§. 92. Caution 1. Not to endeavour an Increase of the Quantity of the Urine, while the *morbific* Humours are critically excreting through the cuticular Vents.

§. 93. Reason. Because the forcing an Increase of the Urine will make a Revulsion from the *Superficies* of the Body: The morbid Consequences of which have been already noted, §. 85.

§. 94. Caution 2. Not to prescribe *Diuretics*, when the Blood is too thick, except such Diuretics as will thin the Blood.

§. 95. Reason. Because lessening the *Serum* of the Blood by increasing the Quantity of Urine, will render it still thicker.

§. 96. Caution 3. Not to endeavour augmenting the Quantity of the Urine, when the Quantity of the Lymph is not too great.

§. 97. Reason. Because increasing the Quantity of Urine beyond what is usual, will in Proportion lessen the Quantity of the Lymph, and render that important Fluid insufficient for due Secretions, and a due Dilution of the Blood.

§. 98. Caution 4. Not to prescribe diuretic Medicines, when the Quantity of the Lymph is too little.

§. 99. Reason. Because the Arguments, which support the last Caution (§. 97.) are much stronger in support of this.

Of

Of Sweating.

§. 100. **I**T deserves to be considered, that making Evacuations by *Sweating* is in many Cases very beneficial to Patients; it is one Way by which lymphatic Humours may pass out of the Body, and thereby the Quantity of the Lymph be diminished, when it exceeds in Quantity: And it is one Way by which *morbific* Particles diffused in the Blood of any Kind may be excreted from the Body, if they are minute enough to pass off through the sudatory Vessels.

§. 101. Yet Endeavours to procure this Evacuation in Persons under Diseases are not to be used *indiscriminately*, let the Case be what it will; because Sweating Medicines in some Cases will produce sad Effects: therefore Cautions are wanted to shew when Sweating Medicines should *not* be given; and the following deserve Notice.

§. 102. Caution I. Not to prescribe Medicines for procuring Sweat, when the Quantity of the Lymph is not too great.

§. 103. Reason. Because that Evacuation in such a Case will render the Quantity of a principal Fluid of the Body less than it
E ought

ought to be, in Proportion to the Quantity of Fluid that goes off by Sweating.

§. 104. Caution II. Not to promote *Sweating*, when the Blood and Lymph are either spissed, or viscid.

§. 105. Reason. Because Sweating in such Cases will increase those morbid Qualities; therefore we must not endeavour to procure Sweating in any ardent or continual inflammatory Fevers, on the Account that one or other of those morbid Qualities subsists in the Blood of Patients under them.

Of the Evacuation by Blistering Applications.

§. 106. **T**HE Application of *blistering* Plaisters, Cataplasms, &c. made with *Cantharides*, is of great Service in many Cases, *e. gr.* when the vital Heat is too little, and when the Pulse is weak and languid; on the Account that their *Stimulus* may increase the Force of the Action of the Heart and Arteries, and quicken the Motion of the Blood, and thereby the Friction of its Globules, and recover the vital Heat; but it is a Remedy that ought not to be used *indiscriminately*, and therefore I propose the following Cautions to Consideration, *viz.*

§. 107.

§. 107. Caution I. Not to direct the Application of Blisters for Persons of a sanguine Constitution, whose muscular Fibres, and animal Vessels are rigid.

§. 108. Reason. Because their *Stimulus* will render the Action of the vital Organs too strong, and increase the Tenseness of the Vessels.

§. 109. Caution II. Not to advise Blistering in ardent or continual inflammatory Fevers, when the Pulse is too quick and strong, and the Heat of the Body is excessive. t

§. 110. Reason. For their *Stimulus* will increase the Force of the Pulse, the Heat of the Body, and the Fever, and thereby the Danger of the Sick.

§. 111. Caution III. Not to prescribe the Application of Blisters to a Woman, when she has her *Menses* flowing, except the Flux is too great.

§. 112. Reason. Because by their *Stimulus* they increase the contractile Force of all the animal Vessels, and thereby may suddenly stop that beneficial Evacuation.

§. 113. Mr. BELLINGER * (formerly a Physician in this City) observed in the

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Case

* Vid. Bellinger's Treatise of the Small-Pox, printed A. D. 1721, Page 14. where, speaking of Blisters, he says,

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Case of *Hemorrhages*, that they ceased when blistering Plaisters applied came to operate.

§. 114. If the foregoing Cautions (§. 49. to §. 111.) are well grounded, I am sure it is to be wished that they were known unto, and duly regarded by every one, who undertakes, by his own Judgment, to direct the Administration of Remedies to the Sick.

§. 115. For as they shew the Rocks to be avoided, and in what Cases the Sorts of Remedies commonly used should not be advised, so the Observance of them will prevent the Mischiefs that always will happen to sick People, when wrong Methods shall be taken for their Recovery.

VI. *An Account of Fevers.*

§. 116. **F**EVERS are the most frequent of all Diseases, are attended with great Danger, and put a Period to the Lives of Multitudes; I shall therefore propose to Consideration some of my Sentiments of them; Sentiments grounded on the real State of Things in human Bodies under these acute Distempers.

§. 117.

*"I have had frequent Occasion to observe in Persons, that
 "have been seized with the most violent Effusion of Blood,
 "that as soon as the Serum has begun to fill the Blister-
 "Bladder, the bleeding has constantly ceased."*

§. 117. A FEVER, in general, I call an acute Disease, with some Symptoms resembling the Effect of Fire in combustible Substances.

§. 118. And on this Account, in the *Greek* it is denominated πυρετός from πύρ, which signifies Fire.

§. 119. This general Description (§. 117.) is comprehensive of all Sorts of Fevers; for it includes not only those which are known by the augmented Heat of the Body, by the Quickness and Strength of the Pulse; but also those in which the external Heat is not greater, nay, sometimes rather less than in the Time of Health, and in which the Pulse is not discernably quicker, or stronger than in Health; or if quicker, yet weaker.

§. 120. It seems to me a mistaken Notion, that a quick Pulse, and great Heat are Symptoms attending all Fevers; and by which they are known to subsist; for I have often met with Fevers without them.

§. 121. These Symptoms (§. 120.) rarely happen in malignant putrid Fevers; and if we may credit the Account of medical Writers of established Characters, they are frequently absent in pestilential Fevers.

§. 122. I have described Fevers, as in §. 117, because in those acute Diseases, where there is no Increase of the external
Heat,

Heat, and no sensibly augmented Motion of the Blood; there are nevertheless other Symptoms resembling the Effects of Fire, particularly the *Dryness*, and *Blackness* of the Tongue; which shews a viscid Quality subsisting in the Blood, and likewise that there are Particles diffused in it of a caustic or burning Nature; for the Extremities of those minute Vessels, which make the *Superficies* of the Tongue, are, as it were, burnt with Fire, so far as they appear black, and dry.

§. 123. All Fevers are produced either, 1. By *inspissating*; or, 2. By *dissolvent* Causes; * or, 3. By both these Sorts of Causes acting in some Combination.

§. 124.

* In the Commentaries on Dr. Boerhaave's Aphorisms, published by Dr. Van Swieten, there is expressed an Approbation of my distinguishing febrile Causes into *incrassating*, and *dissolvent*. For referring to Page 15, of my Preface to the First Edition of my Book on the *Small-Pox*, it is observed, that the Author "very justly distinguishes these febrile Miasmata into two Kinds from their Effects; namely, inasmuch as they either incrassate, or dissolve our Humours; and hence a great Difference must take Place in the Cure of these Diseases, as is sufficiently apparent." *Vid.* the English Edition, Vol. VII. p. 22.

Vid. also, Gerardi van Swieten Comment. in Aphor. Boerhaave, Tom. II. p. 422. Printed at Leyden in 4to. where the Passage translated is thus: Scil. Unde optimo jure celebris auctor (a), hæc Miasmata Febrilia bifariam distinxit ab hoc affectu, quatenus nempe liquida nostra vel *incrassent*, vel *dissolvant*: atque inde in curatione horum morborum magna diversitas obtinet, uti satis patet. *t*

(a) Lobb of the *Small-Pox*, in the Preface, p. 15.

§. 124. This Account (§. 123.) is no *Hypothesis*, no conjectural Opinion, but grounded on the real State of Things in human Bodies under them.

§. 125. I. Some Fevers are produced by inspissating Causes. Here I would explain myself, by observing,

I. That when the *Serum* of the Blood is less in Quantity than in Time of Health, and the Proportion of the red Globules is greater, I call the Blood *spissid*; and whatever Causes bring the Blood into this State, I call inspissating.

II §. 126. I reckon that when Fluids (which are not naturally viscid) lose their natural Tenuity, and become *viscid*, or glutinous, they may be said to be inspissated in Proportion to the Degree of their Viscidity; and whatever Causes bring the Blood into a *viscid* State, I call inspissating.

§. 127. Therefore I may truly say, that all Fevers produced by, and depending on a *spissid* or a *viscid* Quality of the Blood, are produced by inspissating Causes.

§. 128. And in Confirmation of this Assertion (§. 127.) that *some Fevers are produced by inspissating Causes*, I need only add that we have ocular Demonstration of it's Truth from the very Appearance of the Blood,

Blood, which has been taken from many People under them.

§. 129. When the Blood taken from a Person in a Fever appears the next Day to have too little *Serum*, and too great a Quantity of the red Globules, it is a manifest Proof of it, and shews that it is *spissed*; in like Manner, when the Blood, the Day after it is drawn from a Patient under a Fever, appears *sizy*, it is a plain Evidence, that the Fever was brought on by inspissating Causes.

§. 130. II. The second Sort of Causes mentioned (§. 123.) are the *dissolvent*; that is such as divide the Globules of the animal Fluids into lesser and lesser, and also relax the animal Vessels.

§. 131. And I think I may say we have plain Demonstration that this is the Case as to some Fevers.

§. 132. For *Hemorrhages*, which are a Symptom in some putrid Fevers, may be called a Demonstration of it; because they could never happen unless the Globules of the Blood were first in some Measure dissolved, and rendered less than in Time of Health; and the Vessels thro' which the Blood flows, were in some measure relaxed, or their Diameters enlarged.

133. §. I may add, that colliquative *Sweats*, *Urines*, or *Stools*, do likewise demonstrate that

that such Fevers are produced by dissolvent Causes.

§. 134. III. I have represented (§. 123.) that these two Sorts of Causes, viz. the *inspissating* and *dissolvent* in some Combination do produce some Fevers.

§. 135. And this Opinion is grounded on my observing, that in several Patients there were some Symptoms, which only could be produced by inspissating Causes; and likewise other Symptoms, which only could be the Effects of dissolvent Causes.

§. 136. These I call *complex Fevers*, and I have met with such different Symptoms in the *confluent Small-Pox*, no less than in other Fevers.

§. 137. It may seem difficult at first to conceive how such different Qualities, or Causes, should at the same Time subsist in the Animal Fluids; and I may say, that if the Difficulty should remain, yet, since we have clear Proofs that there is a Co-existence of such different Qualities, we ought not to deny it, on the Account that we cannot explain the *Modus* of their Co-existence.

§. 138. What is called the *Mother* in *Vinegar*, is a fluid Substance, in which a *viscid* Quality subsists, and at the same Time an *acid Acrimony* of a dissolvent Nature.

§. 139. If we mix *Ronnet* with warm Milk, it will produce a Spissitude of some Parts of it, and a Tenuity in others, or bring the Milk to be what we call *Curds* and *Whey*.

§. 140. Now from what has been observed, I hope it appears that my Account of *Febrific* Causes (§. 123.) is more than Conjecture, even a true Narrative of them founded on the real State of Things in human Bodies under Fevers.

§. 141. I am lead, by what has been observed (§. 123.) to distribute Fevers into three Classes, *viz.*

1. Fevers from *inspissating* Causes.
2. Fevers from *dissolvent* Causes. And,
3. Complex Fevers resulting from them both, acting in some Combination.

§. 142. I. Fevers from *inspissating* Causes, I distribute into the following Classes, *viz.*

Intermitting,
Remitting, and
Continual.

§. 143. I. Continual Fevers from *inspissating* Causes I distribute into

1. *Ardent* Fevers. And
2. *Inflammatory* Fevers, which are either, 1. Non-eruptive and general, as Rheumatic

matic Fevers; or, 2. Particular, when some particular Part of the Body is chiefly inflamed, *e. g.* in the Pleurisy.

2. Eruptive Inflammatory Fevers, *e. g.* the *Measles*, *Small-Pox*, *Miliary Fever*, &c. which are produced by febrific infecting Particles, of a specific Nature.

§. 144. II. Fevers from *dissolvent* Causes, which may be called *putrid*, on the Account that their Causes are putrefactive, I divide into two Classes, *viz.* the *Milder*, which have no colliquative Evacuations; and the *Malignant*, which are attended with one or more of them.

§. 145. III. *Complex* Fevers, I divide into three Classes; *viz.* *Intermitting*, *Remitting*, and *Continual*; because I have met with them in the Course of my Practice.

§. 146. Now I may truly say, that all Sorts of Fevers are produced by, and depend on some wrong, or morbid Quality; even those which happen to plethoric Bodies: Because Fevers do not always happen to Persons, who have too much Blood.

§. 147. Many Persons are sanguine, and have an Excess in the Quantity of their Blood, yet have no Fever; and therefore we have Reason to think, that it is some other Cause which produces a Fever in such

Bodies; viz. the *Spissitude* of the Blood, or, in other Words, a Deficiency in the Quantity of the Serum.

§. 148. Whence it happens, that there is a greater Friction of the red Globules than in Time of Health; and thence febrile Heat, and other febrile Symptoms.

§. 149. In Fevers produced by *contagious* Particles, as in the Propagation of the *Small-Pox*, *Plague*, &c. the infecting Particles do assimilate many Parts of the Blood into their own Nature, and multiply their own Kind, and very soon introduce a morbid Quality into the Fluids of the Body, either of an *inspissating*, or *dissolvent* Nature.

§. 150. Hence it appears a very just Conclusion, that although taking Blood from the Patient in the Beginning of an ardent Fever is proper, when the Quantity of it is too great; yet that it is needless in the other Fevers, when the Blood is too little, or not more than it ought to be: Because *alterative* Medicines of one Sort or other, are the Remedies wanted; and every one, who advises for the Sick, should understand which of them are suitable in the different Species of Fevers. It should be considered, that in all Fevers, especially the Contagious, the morbid Humours, and *febrific*

Particles, are continually passing out of the Body through all the natural Ways of Evacuation; and that their doing so, is a necessary Means for the Recovery of the Sick: But can any Method more effectually, and more immediately counter-act those Motions in the Body, which were carrying away from the Blood what was superfluous, or prejudicial to Health? or more suddenly stop the Expulsion of morbid Humours, than *Blood-letting*? Can any Thing tend more to render fruitless all other Endeavours to remove the Cause of the Disease?

VII. *An Account of the Cure of Fevers, and the Small-Pox, &c. without Bleeding.*

§. 151. **A**ND is there no Way for curing Fevers, the *Small-Pox*, and the *Plague*, without taking from the Sick some of that Fluid in which the Life of every Creature subsists? Yes, and happy it is for Mankind, that God has created Medicines proper, and which his Blessing has made effectual to this End.

I can truly say, from large Experience, that not only all the common *acute* Diseases, but all Sorts of *chronical* Distempers, arising from, and depending only on some morbid Quality

lity of the Blood ; and likewise all Sorts of *cutaneous* Diseases may happily be cured without *Bleeding*, and without *Purging* : I may add, that the various Kinds of *painful Distempers* may likewise be cured without those Evacuations, which is evident from the Histories related in my *Treatise* on them ; and the Series of Successes, which God has given me, in acting according to my *medical Principles*, are a Confirmation to me of the Justness of them : And several who have read the Books I have published, and gone into the Methods of Practice recommended in them, have informed me, that the Successes they have met with in my way of Practice, have convinced them of the Justness of my Sentiments.

§. 152. That *Fevers* from *inspissating* Causes, whether intermitting, or remitting, or continual ; and those produced by *dissolvent* Causes, and likewise *complex* Fevers, may all of them be well cured without taking away Blood from Persons who have no Excess in the Quantity of it, is evident from the *Histories* related in the second Volume of my *Treatise* on Fevers ; and every Patient that has been under my Care, and recovered without Bleeding, is a Proof of it.

§. 153.

§. 153. And that Persons of different Sexes, and Ages may be safely carried thro' the *Small-Pox*, both the distinct, and confluent, without *Bleeding*, tho' attended with the threatening Symptoms commonly pleaded as Arguments for it in this Distemper, is very certain, from the many Facts related in the second Part of my *Treatise on the Small-Pox*: And in the tenth Chapter of the first Part of that Book (Edit. 2.) I have shewn the Insufficiency of the Arguments used by the ancient and modern Physicians, to prove the Propriety and Necessity of taking Blood from Persons under that Distemper, who have not more of it than a State of Health requires.

§. 154. And since that Book has been well received and esteemed by learned Men, not only at home but abroad, and so much, that one of the Physicians at *Paris* took the Pains to translate it into *Frensh*, and to get it printed there; and if I have not been misinformed, has been translated into other Languages; and since no one abroad or at home has shewed any Mistake in my Sentiments, I am encouraged to think they are approved by those, who have read, and examined them.

§. 155. But on a Review of what are called Arguments for *Blood-letting* in the Cases

Cases wherein I think it improper, they really do not seem to deserve the Name of Arguments. For to say, Blood must be taken from a Man in a Fever, or the Small-Pox, because he has violent Pains, or an Inflammation of his Throat, or a Difficulty of Breathing, &c. is only a delivering an Opinion, but it is no Proof of the Reasonableness of it: And it is less so, since such Symptoms may be removed without diminishing that important Fluid, on the healthy Quantity of which the vital Strength, and the Secretion of due Quantities of the *nervous* and other Fluids of the Body do absolutely depend.

§. 156. And since all Fevers, in Persons not plethoric, are curable without this Evacuation, it surely appears most advisable not to prescribe it for Persons, who are not plethoric.

VIII. Of Bleeding in the Plague.

§. 157. **A**ND that the *Plague*, and pestilential Fevers may also be cured without *Blood-letting*, is evident from Dr. *Diemerbroek's* Treatise on the *Plague*; and from Dr. *Hodges's* Book on the same Subject.

§. 158. But I shall previously take Notice of some Observations, which it concerns

cerns the Public to be acquainted with, and all People to take into their Consideration, if the righteous Providence of God should bring that terrible Distemper among them.

§. 159. BLOOD-LETTING, in former pestilential Seasons, was by some Physicians recommended as a Means to preserve Persons from the *Plague*; and very likely it will hereafter be advised by others for this Purpose: And therefore, as a Warning to People against complying with such Advice, I think it needful to acquaint them with Dr. *Diemerbroeck's* Observations of the Effects of it, when used as a Preservative from the Sickness, and as a Remedy for Persons under it.

§. 160. He acquaints us, * that altho' *Venesectio* was very much commended by many Physicians, ancient and modern, yet he disapproved of it, as very dangerous.

§. 161. He observed, † that *Blood-letting* was very pernicious, even in the most healthy and plethoric Bodies; and that

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* *Venæsectiones* quamvis a multis veteribus & neotericis Medicis summè laudatas, nos tanquam valde periculosas, & damnosissimas planè rejecimus. Vid. *Diemerbroeck* de Peste, p. 150.

† Nam in hac Peste Noviogamenfi semper observavimus *venæsectiones*, etiam in optimè sanis, & plethoricis institutas, fuisse damnosissimas: Idque abunde docuerunt

eristia

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they were fully convinced of this by the sad Consequences of it; those, who for Preservation Sake, had ordered Blood to be taken from them, being soon after seized with the Plague.

§. 162. Then treating on Means for curing the dreadful Distemper, he considers the Matter of taking away Blood; and assures us, that in the *Plague at Nimeguen*, it was found to be a most pernicious Practice; on which Account, they never advised it to the Well, or Sick; no not in other Diseases, which seemed to require Bleeding: And he observed, that they who had the Plague, and were blooded, died one and all, certainly, and quickly*.

§. 163. Dr. DIEMERBROECK gives us an Account of the sad Event of taking Blood from Persons in pestilential Fevers; particularly in Hist. 4. 28. 53. 71. which Cases well deserves to be read and considered.

tristia plurimorum, etiam plethoricorum, exempla, qui cum præservationis gratia venam pertundi curassent, statim post peste correpti sunt. Quapropter nos venæsectionem omnibus prohibuimus. *Diemerbroeck*, p. 151.

* Nos durante hac peste venæsectionem damnosissimam fuisse animadvertimus, ac proinde venam nullis secuimus, nec fanis, nec ægris, imo vix quidem in aliis morbis, qui venæsectionem exigere videbantur. Illud enim observavimus, si peste correptis vena fecaretur, illos ad unum omnes certo & cito obuisse. Vid. *Diemerbroeck* de Peste, p. 187.

§. 164.

§. 164. He likewise gives us many Instances of Persons recovering from the Plague, without taking any Blood from them, particularly in Hist. 1, 2, 12, 14, 25, 27, &c. but indeed every Patient that recovered under his Care is a Proof of it.

§. 165. Dr. HODGES thought that *Blood-letting* in a true Plague ought not to be used, lest the Life of the Sick should be drawn away with his Blood, as it had often happened; so great was the Danger that attended this Evacuation: On which Account, he could not sufficiently wonder, by what Infatuation acted, any dared to advise it *.

§. 166. Those Physicians were Men of large Practice, of careful Observation, and of good Learning; they lived in pestilential Seasons, were much conversant daily with Persons sick of the Plague; the one at *Nimiguen*, while the Pestilence was there, *A. D.* 1635; and the other at *London*, 1665; and both testify from Experience and Facts, that bleeding was a most per-

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nicious

* Phlebotomia in vera, & exquisita peste semper suspecta, nè (quod abundè comprobatur) unà cum cruore purpureo Anima effluat; tam ingens Discrimen concomitari experti sumus hanc Evacuationem; proinde satis mirari nequeo quâ acti insaniâ Hi *vite humanæ* proditores, *carnificinam* exercentes, deliramenta sua alieno damno firmare audeant. *Vid.* Hodges, ΛΟΙΜΟΛΟΓΙΑ, p. 168.

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nicious Thing in the Plague : We have no Reason therefore to wonder, that the Lives of the Persons blooded were thereby destroyed.

§. 167. For, I. On the Supposition that the pestilential Infection is a *Venom*, or *Poison*, which when admitted into the Body, is presently conveyed to the Heart, and fixes in it; and that therefore the Physician's Intention and Endeavour should be to dislodge this Enemy from the Heart; and that to this End he should maintain the Strength of the vital Organs, and the Vigour of the Circulation for expelling the Venom from the Heart, and from the arterial Blood, into the excretory Vessels of all the Glands serving the natural Excretions, and through them out of the Body : Supposing this to be the Case, yet drawing Blood from the Patient, and the doing it largely, and repeating the bloody Evacuation, is quite contrary to the curative Intention, and inconsistent with it : Since nothing can so speedily lessen the Quantity of the nervous Fluid, or Animal Spirits, and by its *Revulsion* from both the external and internal *Superficies* of the Body, hinder the *Expulsion* of any morbid Humours, and since nothing can so quickly diminish the

vital Strength, and make Death so certain and speedy.

§. 168. But, *Illy*, Supposing that the *infecting* pestilential *Particles*, (like the variolous) when they are admitted into the Blood, do become diffused in it, and in the Lymph, and other Fluids of the Body; supposing, I say, this to be the Case, as it really is, then the Physician's Intention should be to *alter* the Quality, or the Figure of the morbidic Particles, to maintain the *vis vitæ*, to strengthen all the vital, and all the secreting, and excreting Organs, and in this Way to recover both the Fluids, and Solids of the Patient, to a State of Health.

§. 169. But nothing can possibly be more foreign to this Intention (§. 168.) than bleeding the Sick; since the taking away a Pound of Blood from a Person weighing an Hundred and Sixty Pounds, cannot diminish so much as *one Hundredth* Part of the pestilential Matter subsisting in the Body; and that at the same Time, and in the same Proportion, the best Parts of the Blood are let out of the Body; and therefore the bleeding can be of no Service to the Sick for promoting his Recovery, since it leaves Ninety and Nine Parts of the pestilential Matter, out of an Hundred subsisting and acting in the Body.

§. 170.

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§. 170. And as to Persons under the Plague, according to the Time of *Blood-letting*, will be the Effects of it; for, if it be before *Buboes* are formed, then those salutary Tumors will be prevented; if, after they are formed, they will subside; and whatever be the Time of *Blood-letting*, it is certain from Experience, that the Evacuation has been pernicious to the Patients, and we may expect it always will be so.

§. 171. What, in Reason, can it avail to say, that some Persons, who have been blooded again, and again, have recovered? Have not Soldiers likewise recovered after grievous Wounds, and the Loss of much Blood in a Battle? But will this justify, or excuse the wounding a Man, and forcing him to lose great Quantities of Blood? I think it will not; Why should I make Waste of the *vital Fluid*, as if it was of no Moment, how much the Quantity of it is diminished below the Standard of Health; as if all the morbid Humours were collected into it; as if it was become a Sort of Excrement of the Body, which ought to be let out for the Safety of the Sick? Why should I draw it forth *largely*, not as if the Life, but the Death of the Creature was in it; as if the Health of Persons, and their
Re-

Recovery from Sicknefs, though they had not too much Blood, or though they had too little, yet depended on its being rendered lefs and lefs?

I may add, that what has been obferved about Bleeding in the Plague, may well make the Advifers for the Sick afraid of ordering Blood to be taken away, and the Sick afraid of fuffering Blood to be taken from them, when any epidemic or contagious Diftemper fhall be brought into any City, or Country.

It is my Opinion that the Bills of Mortality would not have rifen near fo high as they did in the Beginning of the Year 1733, if *Blood-letting* had not been fo univerfally practifed as it was.

§. 172. I have faid thus much, on the Account of the Importance of the Subject, and to fet Things in a true Light; and that all who fhall read thefe Papers, may have a fair Warning not to confent to an Evacuation, when it is like to be pernicious to them in its Confequences.

§. 173. I apprehend, indeed, that what I have delivered will be difregarded by many; and that the Holy God, who threatned to fend Sickneffes on People for the Punifhment of their Sins, will, for the fame righteous Ends, fuffer many to be infatuated

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fatuated in the Time of his Visitation; will suffer many to give improper Advice, and many to comply with it: Nevertheless, it is agreeable to his Mercy, that Physicians recommend all proper Means for the Recovery of the Sick, and for the Sick to make Use of them: And I may add, that God, infinitely Good in pardoning penitent Transgressors, has remarkably blessed them to the Recovery of Multitudes from the most terrible Fevers; and even from the *Pestilence*, the most tremendous of all Diseases.

IX. *Of Necessary MEDICAL KNOWLEDGE.*

§. 174. **I** Shall now re-mention some of the principal Parts of that KNOWLEDGE, which is most necessary to qualify a Man for a right and successful Manner of Practice, particularly the following, *viz.*

I. The Knowledge of the Quantity of the Patients Blood; as whether it is nearly what a State of Health requires, or whether it is more or less: Because without it, we cannot rationally forbid, or advise bleeding: I may add, that there are in every Person those Things from which (when we are acquainted with them) we may deduce such Knowledge.

§. 175. II. The Knowledge of the Quantity of the *lymphatic* Fluid, whether it exceeds,

ceeds, or is deficient; and there are Symptoms in every Disease, by which we may obtain this Knowledge, which is needful to direct us when to prescribe Purging, &c. ⁷⁷ and when to forbear it.

§. 176. III. The Knowledge of the Quantity of the *nervous* Fluid; and I may say, that there are in every Person Signs, from which we may learn what it is.

§. 177. And IV. As to Diseases, both *acute* and *chronical*, the Knowledge of the various *morbific Qualities*, which produce them, and how to distinguish which Species of them subsists in the animal Fluids under this, or that Sort of Distempers, is of vast Importance; and I may add, that in each Sort of them, there are some peculiar Symptoms, by the Consideration of which, we may know the Nature of the *morbific Quality* in each of them.

§. 178. All this Knowledge (§. 174. &c.) is necessary, as a Light to shew us what Sort of alterative Medicines we should prescribe for the Cure of this, or that Sort of Disease.

§. 179. But the Knowledge of these Things (§. 174. &c.) I apprehend is not to be learned by reading the Works of *Hippocrates*, or of *Galen*, or of the other *Greek*

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medical Writers, or the Books of the *Arabian* Physicians.

X. *Advice about studying Physick.*

§. 180. **I**F I was to give Advice to those who design to practise the *medical* Art, it should be this, *viz.* To consider that God is the Fountain of Knowledge; and therefore, by daily Prayer, to seek to him for it; and that he will guide and prosper their Endeavours after it, who gives to all Men liberally, and upbraideth not those, who, by serious Prayers, ask it of him.

§. 181. And as to the Method of studying, I would propose their getting the Knowledge of the Structure, and Oeconomy of the human Body; and distinct Notions of the Causes of the various Kinds of Distempers incident to it; and of the Symptoms, by which they may know and distinguish which of those Causes produced this, and that Disease.

§. 182. And then to get acquainted with the *Principles* of the medical Art; and the Nature of the several Parts of the *Materia medica*, with the *Rules* and *Cautions* to be observed in the Use of them.

§. 183.

§. 183. And lastly, to read the *Writings* of ancient Physicians, and the Works of modern Authors; because, then they will be able to form a proper Judgment of the Things they read, and to distinguish true Notions from mistaken Opinions: Whereas, if a Student begins with reading a Variety of Authors, he will fill his Mind with a Multitude of confused Ideas; and may find a great Difficulty to methodize, and digest them to his Purpose.

XI. *Considerations for medical Advisers.*

§. 184. **I**F any shall read these Papers, who venture to direct Medicines, and to order the Management of Persons under dangerous Diseases; altho' they are ignorant of the Nature of them, and of the natural Effects of the Remedies used by Physicians, and of the Things proper and needful to be done for the Recovery of the Sick; and of the Things to be avoided, as improper and hurtful; I would desire them seriously to consider the Care, which God, by his Laws, has shewed for the Preservation of the Life of Man; I say, of Man, that Creature on Earth, whom he made after his own Image.

52 *Considerations for medical Advisers.*

§. 185. It appears by his Laws, that if a Man was instrumental in the Death of another, tho' ignorantly, and without any Design of Harm, yet he was judged to be a *Man-slayer*.

§. 186. *In Numbers, Chap. 35. God specifying several Ways, in which one Man might happen to be the Instrument of Death to another, in Verse 23 says, Or with any Stone wherewith a Man may die, seeing him not, and cast it upon him that he die, and was not his Enemy, neither sought his Harm; yet, in this Case, he was judged a Man-slayer, and obliged to seek Safety in a City of Refuge, and to abide in it unto the Death of the High-Priest, Ver. 25.*

§. 187. And it is said (in *Dut. xix. 4, 5.*) *Whoso killeth his Neighbour ignorantly, whom he hated not in Time past. As when a Man goeth into the Wood with his Neighbour to hew Wood, and his Hand fetcheth a Stroke with the Ax to cut down the Tree, and the Head slippeth from the Helve, and lighteth upon his Neighbour, that he die; he shall flee to one of those Cities, (that is of Refuge) and live. Now, does it not hence appear, that according to the divine Law, he, who, by any Action, occasions the Death of another, is a Man-slayer, altho' he did it ignorantly, and bore no ill Will, meant no Harm*

Harm to the Man, whose Death he occasioned.

§. 188. Let it be considered, whether, if a Man, by giving an improper Medicine; suppose it be a Purge to a Patient under an *eruptive* Fever, and that this Purge produces a Revulsion, and a Return of the febrile Matter into the Blood, which had been excreted from it to the Superficies of the Body; and that the Fever was hereby increased, and the Patient's Life destroyed: Or, suppose a Man improperly orders Blood to be taken away, and the Bleeding to be repeated in a Patient, who had *too little* Blood at the Time of his sickening; and whose vital Strength had been much diminished by his Sickness, and by means of those improper Bleedings, the vital Organs become unable to carry on the Circulation of the Blood, which therefore ceases, and the Patient dies: I say, let it be considered how near in these, and such-like Cases, such Advisers for the Sick, do come to the Character of being *Man-slayers*.

§. 189. Certainly it is a very serious and important Affair, to be employed to direct for the Recovery of Patients under Diseases attended with great Danger; and every one who ventures to undertake this Office,

54 *Considerations for medical Advisers,*

Office, ought to use the greatest Diligence to obtain that Knowledge, which may secure him from doing Harm, and enable him to manage his Patients rightly: For if he destroys a Patient, by wrong Advice, instead of curing his Distemper, it will be no Excuse for him to say, he did it ignorantly, that he meant no Harm; that others have done the same with their Patients in like Cases; much less will the Pleas avail him, if he has wilfully neglected any Means that might have informed his Judgment, so as to prevent such pernicious Errors in his Practice. I may add, that they, who, for Lucre Sake, will do the Office of Physicians, altho' they never were instructed, nor by proper Studies have obtained that Knowledge, which is necessary to enable them to act rightly for the Cure of Diseases, contract much Guilt to their Souls, and are sowing the Seeds of bitter Remorse; they are laying a Foundation for very melancholy Reflections.

§. 190. For God will bring every Work into Judgment, with every secret Thing, whether it be good, or whether it be bad. The Lord will bring to Light the hidden Things of Darkness, and will make manifest the Counsels of the Hearts. And then

then he shall reward every Man according to his Work.

§. 191. What can we with Reason think of the Principles, and Integrity of a Man, that undertakes to pilot Ships into Port, before he has got the Knowledge of the Rocks to be avoided ; and of the Course of the Channel in which he should steer ?

§. 192. Truly, the Principles, and Integrity, of such pretended Pilots, and of ignorant Advisers for the Sick, are much alike ; and alike hazardous it is for sick People to employ ignorant Persons to direct for the Cure of their Distempers, when attended with Danger ; and for the Proprietors of Ships to employ such unskilful Men to bring them, with the People on Board, into Port.

XII. *The* CONCLUSION.

§. 193. **I** Have in the foregoing Papers given an Account of Diseases, as to their Causes, and of the proper Means for curing them ; and likewise an Account of my Medical Principles, and Cautions, according to which I have acted in the Course of my Practice ; and I should be ungrateful to my Good God, and not faithful to Men, if I do not add, that in managing my Patients in a Manner correspondent

56 *The* CONCLUSION.

dent to them, God has blessed me with a Series of Successes, which has often been Matter of Wonder to me, as well as of Thankfulness: And I have published them with an Hope they may be useful to many, who, although they are not Physicians, yet are often under a Necessity of acting as such; and likewise useful to many, who cannot have a Physician, and would not be mismanaged, when they shall be sick.

Blessed be the Name of God for ever and ever; for Wisdom, and Might are His.
Dan. ii. 20.



POST-

P O S T S C R I P T.

I Would not have my Sentiments mistaken, and therefore, desire it may be remembered, that I am for *Bleeding*, when there is an Excess in the Quantity of the Blood; and for *Purging*, when the Quantity of the lymphatic Humours is too great.

What I disapprove, is the customary *indiscriminate* advising those *Evacuations*, when there is no Occasion for them: I mean, when the Diseases arise only from some *morbid Quality* of the Animal Fluids; and therefore may be cured by *alterative* Medicines without them.

I own, that I do not *bleed*, nor *purge* for the Cure of those Distempers, because I know that there is a morbid Quality in the Blood of Persons under them; and find in my own Experience, that, with the divine Blessing, they may be cured by other Remedies; and apprehend, that if I advised them, I should render the Recovery of my Patients more slow, and more uncertain.

What I have said concerning the Importance of knowing when the Quantity of the Animal Fluids is too great, or too little,

I

and

and when Diseases are produced by a *morbid Quality*; and of understanding the Nature of the several morbid Qualities incident to the Blood, and which of them subsists in each Sort of such Distempers; and my observing, that there are *Symptoms* in each of them from which such Knowledge may be clearly deduced; will, perhaps, occasion some Readers to think that, in this Book, I should have specified them, and explained their Signification.

And as I have represented, that all Sorts of Diseases, acute and chronical, which are produced by, and depend meerly on some morbid Quality, may be cured only by *alterative Medicines*, without Bleeding, or forcing an Increase of any of the natural, sensible Evacuations; so some Persons, probably, will imagine, that I ought to have given an Account of those Medicines, and Instructions for the Management of the Sick.

As to FEVERS, I have done all these Things in my Two Volumes on those acute Diseases: I have also done the same relating to the SMALL-POX, in my Treatise on that Subject: And I have done the same, as to PAINFUL DISTEMPERS in my Treatise on them: And as to the many other Diseases incident to human Bodies, those Things

Things could not be distinctly considered, and duly treated in a Pamphlet; but they are particularly discoursed on in my Lectures, with an Account of effectual Medicines for curing the various Diseases, incident to human Bodies, correspondent to the *Medical Principles and Cautions*, herewith published; as well as other Matters requisite to a right and successful Manner of practising Physick.

F I N I S.

E R R A T A:

IN §. 45. Line 3, 4. instead of *Qualities*, r. *Quality*.
 §. 109. Line 4. instead of *Head*, r. *Heat*.
 §. 126. After the Number of the Section, add II.

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